Educational Support for Rural Physicians: A Test-bed for the Development of Mixed Media CME in Newfoundland

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The recruitment and retention of physicians in under served rural areas is a critical problem in health care across North America. In the analysis of possible ways to provide a more attractive work environment for these practitioners, access to continuing education and professional consultation is a recurring expressed need. In Newfoundland this problem is compounded by lack of adequate locum support to free up physician time for travel to centres where CME courses would be given. The large distances involved in a population distributed thinly over the island of Newfoundland and the mainland part of the province in Labrador are an additional complication. Historically this problem has been addressed using the facilities of the Telemedicine Centre at the Faculty of Medicine, which has done pioneering work in distance education and consultation, primarily by means of audio conferencing. With the explosive arrival of the World-Wide-Web in the medical information environment, it was decided to take advantage of the Internet to extend our education mission to the rural physician.

A joint project with the Newfoundland and Labrador Medical Association, has been initiated to develop a dedicated server for this purpose. The server is connected to the Internet through the Memorial University of Newfoundland backbone, the last link being an Ethernet 10Base-T Twisted pair link. It is acting as a liaison for publicity and registration to traditional course offerings delivered through the Professional Development/CME Office of the Faculty of Medicine, and is used to develop multimedia WWW resources. Aggressive recruitment of content has begun, to develop materials tailored to the practice guidelines and operational protocols observed by the referral resources in the province. We are beginning to convince the participants in our local Rounds presentations at various levels to provide us with graphics and presentation summaries which will be formatted for WWW delivery to distant colleagues.

In order to evaluate the utility, efficacy and acceptability of distance education delivery modes, a pilot short course in Dermatology has been designed. It utilizes clinical content which in part is currently being delivered in "traditional" CME seminars. Because many of the potential users of this service are limited to "low bandwidth" Internet connectivity, we have chosen to use a mixture of CD-ROM, WWW, email, and audio teleconferencing to deliver the education content, and evaluate the participants. The course consists of four 50-minute audio teleconferences with practicing dermatology specialists. Supporting materials to the teleconferences are available to the participants as a CD-ROM distributed to them when they enroll, with additional materials and a lecture outline placed on the WWW server. The "lecture notes" are linked to high resolution graphics of classic cases and video clips of diagnostic and treatment procedures on the local CD-ROM. After each teleconference an online quiz is completed by participants using forms submission to the WWW server. Discussion and questions to the presenters are mediated through the real time teleconferences and a mailing list which is maintained on the server specifically for this purpose.

A control group receiving the same materials and evaluations using traditional seminar presentations and paper-based evaluation is being used for an objective comparison of the success of learning objectives with the new mode of delivery and of its acceptability to the participating physicians. This is intended as a model for developing remote delivery of high level continuing medical education and collegial consultation, in an environment where distance and the high cost and most often absence of high bandwidth connectivity limits the range of technology which can be used effectively.

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